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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HECK, MICHAEL C

ART UNIT	PAPER NUMBER
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3623

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/738,325

Applicant(s)

NOMOTO ET AL.

Examiner

Michael C. Heck

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Final Office Action is responsive to applicant's amendment filed 21 March 2005. Applicant canceled claims 6 and 11 and amended claims 1, 3-5 and 7-10. Currently, claims 1-5 and 7-10 are pending.

Response to Amendment

2. The objection to the drawings in the First Office Action is withdrawn in response to the applicant's amendment to the Specification.

3. The objection to the Specification in the First Office Action is **not** withdrawn in response to the applicant's amendment. The Applicant indicated on page 9 of the amendment dated 21 March 2005 that "various amendments were made throughout the specification to correct the informalities noted by the Examiner", however no such amendments were submitted to the Office. In addition, the Examiner required a substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52 (a) and (b), but no substitute specification was submitted to the Office.

4. The 35 USC 112 second paragraph rejection in the first Office Action for claims 1-11 are withdrawn in response to the applicant's amendment to the claims.

5. The 35 USC 112 second paragraph rejection in the first Office Action for claim 3 is **not** withdrawn in response to the applicant's amendment to the claim. The Claim was amended, however the 35 USC 112 second paragraph rejection was not resolved. Please see the 35 USC 112 second paragraph rejection below.

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6. The 35 USC 101 rejections in the first Office Action for claims 1-11 are **not** withdrawn in response to the applicant's amendment to the claims. Claims 6 and 11 were canceled; however the technological arts issue was not resolved. Please see the 35 USC 101 rejections below.

Response to Arguments

7. Applicant's arguments filed 21 March 2005 have been fully considered but they are not persuasive. Applicant indicated no publications or citations as requested can be supplied. Applicant also indicated the specification was amended to rectify the objections presented by the Examiner, however no amendment to the specification or the required substitute specification was supplied. The Applicant did not address the 35 USC 112 second paragraph rejection of claim 3. Applicant asserted the amendment to the claims resolved the 35 USC 101 technological art rejection, however no technology was indicated being used in the amended method claims. Applicant argues the present invention is entirely different from that taught by Cheng (U.S. Patent 6,138,103).

In response, the Examiner interpreted the claims as best understood from the disclosure supplied by the Applicant. The Examiner reiterates the claims are generally narrative and indefinite, failing to conform to current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. The Examiner requires the applicant to submit a substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52 (a) and (b) in order to continue further prosecution of the application.

Please see the rejections below.

Specification

8. The disclosure is objected to because of the following informalities:
- On page 1, lines 4-5, delete "The present invention relates to a method for production planning with using a linear programming method", and insert --
The present invention relates to a method for production planning using a linear programming method --.
 - On page 1, line 22 to page 2, line 1, delete "For example, regarding a product A, there may be a method, in which the materials are supplied from Asia so as to be fabricated in Japan, and another way in which they are supplied in Japan so as to be fabricated in U.S.A., etc.", and insert --For example, regarding a product A, there may be a method, in which the materials are supplied from Asia so as to be fabricated in Japan, and another way in which they are supplied **by** Japan to be fabricated in **the** U.S.A., etc. --.
 - On page 2, lines 2-4, delete, "Several methods are proposed, in each of which the production plan forming such the production mode is made up with using a linear programming method." and insert -- Several methods are proposed, in each of which the production plan forming the production mode is made up using a linear programming method. --.
9. The above citation is a mere guide. Applicant is requested to review the specification thoroughly to eliminate additional errors. The application appears to be a

literal translation of a foreign application. A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. A statement that it contains no new matter must accompany the substitute specification filed.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. **Claims 1-5 and 7-10** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 1 recites a method of production planning performing the steps of: making a restriction condition for each of said at least one management index, formulated with an equation of $x = \text{a target value of each of said at least one management index} + \text{a plus estrangement value from said target value (a variable)} - \text{a minus estrangement value from said target value (a variable)}$, in which x is a real value of each of said at least management index, by inputting each of said at least one management index as a constant; solving a linear programming problem in which said restriction condition is incorporated; calculating a feasible real value x so that the estrangement between said target value of each of said management index, calculated from an executable solution of said linear programming problem, comes to be minimal;

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and showing said real value x calculated. No clear steps are delineated to indicate how the calculated real value x is used in production planning nor is it clear how the real value x relates to the real world of production planning:

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. **Claims 1-5 and 7-10** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are generally narrative and indefinite, failing to conform to current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. The Examiner requires the applicant to submit a substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52 (a) and (b).

14. **Claim 3** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 3 does not further limit what a "target value" is. For example, per claim 3, a target value can be any number since any number would meet the equal to, greater or less than that, or maximal or minimal, with respect to a numerical value appointed.

Claim Rejections - 35 USC § 101

15. 35 U.S.C. 101 reads as follows:

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Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

16. **Claims 1-5 and 7-10** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

- (1) whether the invention is within the technological arts; and
- (2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For the process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts. In the present case, **claims 1 and 5** only recite an abstract idea. As to **claim 1**, the recited steps of making a restriction condition for each of said at least one management index, formulated with an equation of $x = \text{a target value of each of said at least one management index} + \text{a plus estrangement value from said target value (a variable)} - \text{a minus estrangement value from said target value (a variable)}$, in which x is a real value of each of said at least management index, by inputting each of said at least one management index as a constant; solving a linear programming problem in which said restriction condition is incorporated; calculating a feasible real value x so that the estrangement between said target value of each of said management index, calculated from an executable solution

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of said linear programming problem, comes to be minimal; and showing said real value x calculated does not apply, involve, use, or advance the technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil and paper. The method only constitutes an idea for production planning where a management index related with production activity is calculated, therefore, is deemed to be directed to non-statutory subject matter. As to **claim 5**, the recited memory medium, storing program for executing said processes, in the method of production planning, as defined in the claim 1 does not recite any structure or functionality to suggest that a computer performs a task. This amounts to only storing the program where nothing is done (i.e., computing) to breathe life into the invention.

As to technological arts recited in the preamble, mere recitation in the preamble (i.e., intended or field of use) or mere implications of employing a machine or article of manufacture to perform some or all of the recited steps does not confer statutory subject matter to an otherwise abstract idea unless there is positive recitation in the claim as a whole to breathe life and meaning into the preamble. In the present case, none of the recited steps are directed to anything in the technological arts as explained above. Looking at the claim as a whole, nothing in the body of the claim recites any structure or functionality to suggest that a computer performs the recited steps. Therefore, the preamble is taken to merely recite a field of use. Looking at the claims as a whole, nothing in the body of the claims recite any structure or functionality to suggest that a computer performs a task.

Additionally, for a claimed invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result. In the present case, the claimed invention does not produce a useful, concrete, and tangible result. As to **claim 1**, the claimed invention, as understood by the examiner, is merely calculating a feasible real value x so that the estrangement between said target value of each of said management index, calculated from an executable solution of said linear programming problem, comes to be minimal; and showing said real value x calculated. The result is simply an answer to a mathematical problem where something or someone else has to interpret them to employ them in whatever fashion necessary to realize the benefit of the calculation. No steps are identified in the dependent or independent claims to indicate how the values that are calculated are translated into a production plan, that is, the purpose is identified but no steps are identified to indicate how the purpose is realized. As to **claim 5**, the claimed invention only stores the information associated with claim 1. A process that consists solely of the manipulation of an abstract idea is not concrete or tangible. See *In re Warmerdam*, 33 F.3d 1354, 1360, 31 USPQ2d 1754, 1759 (Fed. Cir. 1994). See also *Schrader*, 22 F.3d at 295, 30 USPQ2d at 1459.

Since the claimed invention, as a whole, is not within the technological arts as explained above and does not produce a useful, concrete, and tangible result, the same rejection as stated above for claims 1 and 5 applies to **claims 2-4 and 7-10**.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. **Claims 1-5 and 7-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng et al. (U.S. Patent 6,138,103) in view of Thierauf et al. (Thierauf et al., Decision Making Through Operations Research, Second Edition, John Wiley & Sons, 1975, chapter 6). The Examiner notes that the art is applied as best as the Examiner understands the applicant's invention since the application is replete with errors as indicated above. Cheng et al. disclose a method for production planning comprising:

- **[Claim 1]** making a restriction condition for each of said at least one management index, formulated with an equation of $x = \text{a target value of each of said at least one management index} + \text{a plus estrangement value from said target value (a variable)} - \text{a minus estrangement value from said target value (a variable)}$, in which x is a real value of each of said at least management index, by inputting each of said at least one management index as a constant; solving a linear programming problem in which said restriction condition is incorporated; and showing said real value x calculated (col. 2, lines 5-46, and col. 4, lines 22- 31, Cheng et al. teach a decision-making methodology for production planning in an uncertain demand environment using the combination of the scenario-based analysis and the implosion technology. Implosion-based systems perform resource allocation under constraints by using demands, available resources, and the Bill of Manufacture (includes BOM as well as Bill Of Capacities) to determine a feasible product mix that meets the users goals. These goals correspond to user-defined criteria such as customer serviceability, profit maximization, inventory minimization, and revenue maximization. The LP (linear program) is a simplified version of a typical material planning problem with deterministic demands. All the decisions are made at the beginning of the planning horizon. The solution is obtained using an implosion technology-based optimization engine, such as a Supply Capability Engine (SCE). The examiner interprets "target value of a

predetermined management index" to be customer serviceability, profit maximization, inventory minimization, and revenue maximization, and an estrangement value" to be a constraint.);

Cheng et al. fail to teach calculating a feasible real value x so that the estrangement between said target value of each of said management index, calculated from an executable solution of said linear programming problem, comes to be minimal. Thierauf et al. teach a minimization problem where the computational procedure for the simplex method (linear Program) is readily applicable to a minimization problem whose main objective is to minimize costs (pp 181). It would have been obvious to one of ordinary skill in the art to use the minimization approach of Thierauf et al. with the teachings of Cheng et al. since Cheng et al. teach an optimal production plan (col. 4, line 57 to col.7, line 37). Thierauf et al. teach blending of raw material, inventory scheduling, manpower management planning, and production scheduling as applications of linear programming (pp 202-203). A company's goal is to maximize profits by maximizing revenues and minimizing cost. Linear programming identifies optimal solutions to production problems as identified by Thierauf et al. to both maximize production and minimize cost. Therefore, implementing linear programming helps companies maximize profits.

- **[Claim 2]** said management index is a combination of at least one or more of inventory, profit, sales, cost, a rate of operation, fulfilling rate of demands from marketing point, cash which production activity produces, and an efficiency at which the production activity produces the cash (Cheng et al.: col. 2, lines 5-46, Cheng et al. teach a decision-making methodology for production planning in an uncertain demand environment using the combination of the scenario-based analysis and the implosion technology. Implosion-based systems perform resource allocation under constraints by using demands, available resources, and the Bill of Manufacture (includes BOM as well as Bill

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Of Capacities) to determine a feasible product mix that meets the users goals. These goals correspond to user-defined criteria such as customer serviceability, profit maximization, inventory minimization, and revenue maximization.)

- **[Claim 3]** the said target value of each of said management index is set to be equal to, greater or less than that, or maximal or minimal, with respect to a numerical value appointed (Cheng et al.: col. 6, line 64 to col. 7, line 7, Cheng et al. teach the optimal production plan specifies the production quantities for each product in each period with the best overall performance measure under materials and capacity constraints.).
- **[Claim 4]** production amount and/or material supply amount and/or transportation amount is/are calculated out by repeating steps of: setting said target value of each of said management index through an input means, solving said linear programming problem in a calculation means; displaying a result thereof on a display means, and again, changing said restriction condition stored in a memory means upon receipt of change in said target value of each of said management index through said input means; solving said linear programming problem, the restriction condition of which is changed, in said calculation means; and displaying the result thereof on said display means (Cheng et al.: col. 6, lines 3-8 and line 64 to col. 7, line 7, Cheng et al. teach the optimal production plan specifies the production quantities for each product in each period with the best overall performance measure under materials and capacity constraints. When a production plan is evaluated against a different demand scenario, the production plan will be re-optimized when new information about demand becomes available, and only the initial portion of the production plan has to be fixed and implemented.).
- **[Claim 7]** said linear programming problem is solved by adding at least one management index to said management index, or by changing at least one management index into another management index, or by changing at least one target value of said management index into another value, thereby calculating out values of the management indices after the addition or the change thereof (Cheng et al.: col. 6, lines 3-8 and line 64 to col. 7, line 7, and col. 10, lines 16-33, Cheng et al. teach the optimal production plan specifies the production quantities for each product in each period with the best overall performance measure under materials and capacity constraints. When a production plan is evaluated against a different demand scenario, the production plan will be re-optimized when new information about demand becomes available, and only the initial portion of the production plan has to be fixed and implemented. The four major steps of the PPPT computations include modifying data where the user is allowed to view/modify the data used for the PPPT computations.).

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- **[Claim 8]** said values of said management index is displayed on a display means in a form of a radar chart or a rod graph (Cheng et al.: Figure 8, col. 10, line 64 to col. 11, line 5, Cheng et al. teach a bar chart format to display the payoff table, i.e. the performance measures of a given plan against different scenarios or the performance measures of different plans for a given scenario.).
- **[Claim 9]** said management index and the values of said management index after the addition or the change thereof are displayed on a display means in a form of a radar chart or a rod graph (Cheng et al.: Figure 8, col. 10, line 64 to col. 11, line 5, Cheng et al. teach a bar chart format to display the payoff table, i.e. the performance measures of a given plan against different scenarios or the performance measures of different plans for a given scenario.).
- **[Claim 10]** said target values of said management index and actual values of said management index are displayed on a display means in a form of a radar chart or a rod graph (Cheng et al.: Figure 8, col. 10, line 64 to col. 11, line 5, Cheng et al. teach a bar chart format to display the payoff table, i.e. the performance measures of a given plan against different scenarios or the performance measures of different plans for a given scenario.).

Claim 5 substantially recites the same limitations as that of claim 1 with the distinction of the recited method being a memory medium and method. Hence the same rejection for claim 1 as applied above applies to claims 5.

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Michael C. Heck whose telephone number is (571) 272-6730. The Examiner can normally be reached Monday thru Friday between the hours of 8:30am - 4:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq R. Hafiz can be reached on (571) 273-6729.

Any response to this action should be mailed to:

**Director of the United States Patent and Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450**

Or faxed to:

(571) 273-8300

[Official communications; including After Final communications labeled "**Box AF**"]

(571) 273-6730

[Informal/Draft communication, labeled "**PROPOSED**" or "**DRAFT**"]

mch
mch
22 July 2005

Susanna Diaz
SUSANNA M. DIAZ
PRIMARY EXAMINER
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